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| Date | Class Level Third Class – Sixth Class | Subject Physical Education |
| Strand Games | Strand Unit Creating and Playing Games Understanding and Appreciation of Games. | |
| Title Litter and Waste Breakdown Game | | |
| Objective(s) The aim of this lesson plan is to investigate how long different types of waste take to break down, through a visual and hands-on game. | | |
| Skills Required The children will develop skills including: The ability to understand the impact of litter on our natural environment and identify what we can do to reduce this impact. The ability to create and develop a game with a partner or small group. | | |
| Learning Objectives: The child will be enabled to: Investigate how long different types of waste take to break down, through a visual and hands-on game. Understand the impact of litter on our natural environment and identify what we can do to reduce this impact. Create and develop a game with a partner or small group. | | Learning Activities Talk and Discussion: Begin the class with a discussion on how litter and waste break down. Show the 'What is Degradation' PowerPoint Presentation, which is available to download from the teachers resources section on www.explorers.ie Explain to students that they will work in pairs. Each pair will be given an image of a piece of litter, and / or a sample of a clean piece of this rubbish. A selection of time cards will be placed around the room. Students must decide which card corresponds with the amount of time it takes for their piece of rubbish to degrade / break down. Guided Discovery / integration: Place the time cards around the classroom/ hall/ sports field. Ask students to walk around and look at all the time cards. They need to guess how long it will take their piece of rubbish to break down and stand beside that card. Ask the students to discuss, what type of material |



their piece of rubbish is made from, could they easily break it / rip it, does it have holes in it, is it edible, do they think it is a man-made or natural material.

Teacher directed approach:

The Teacher then walks around the room. Ask pupils why they chose that breakdown time. If they are incorrect, tell them the actual time and ask them to stand beside the correct time card.

Talk and Discussion:

Discuss with the class what they thought of the results. Ask the students to line up in order from the shortest to the longest time. Questions: Are they surprised with how long it took some items to break down? Ask them to imagine the impact it might have on animals? Have the students any ideas of how their piece of rubbish could be reused, reduced or recycled?

The breakdown quiz can be completed at the end of this lesson – see www.leavenotraceireland.org

Resources

- ‘What is Degradation’ PowerPoint Presentation
- Images of Rubbish – see below, plus Samples of Clean Rubbish if possible.
- Degradation Information Sheet – see below
- Breakdown Quiz - www.leavenotraceireland.org

Differentiation

Higher and Lower order questioning. Differentiate group activities and roles to account for individual needs by support, task. Mixed ability pairing.

Assessment

Teacher Observation and Questioning.



Linkage and Integration

Science – Materials- Introduction to degradation and how long it takes for materials to break down.

Geography – Environmental awareness and care – Explorers Caring for Our Ocean Action Board.

Geography – Human Environments – Living in the local community – Keeping our beaches clean from litter
















Mathematics – Data – recognising and interpreting data, representing and interpreting data collected during a beach clean.

Visual Art – Construction – making constructions, looking and responding – Creating a clay ocean diorama showing the effects of Marine Pollution.

English – Oral Language – Marine TV and Reporting on Marine Pollution.

Explorers Education Programme™

Images of Rubbish

| | | |
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|  <p>Apple</p> |  <p>Fishing Net</p> |  <p>Nappy</p> |
|  <p>Tin</p> <p>Aluminium (Food)</p> |  <p>Rubber</p> |  <p>Newspaper</p> |
|  <p>Plastic-coated Cardboard</p> |  <p>Glass</p> |  <p>Toilet Paper</p> |
|  <p>Plastic bag</p> |  <p>Hard Plastic</p> |  <p>Natural Cloth</p> |
|  <p>Untreated Wood</p> |  <p>Soft Plastic</p> |  <p>Polystyrene</p> |

DEGRADATION - INFORMATION SHEET

Degradation is when items (including natural items and manufactured or processed products) decompose or break down very slowly into very small parts. The following chart shows how long it takes for some items (typically found on the seashore) to degrade.

| Items typically found on the beach | Approximate time for compounds to degrade in a marine environment |
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| Paper towels | 2-4 weeks |
| Newspaper | 6 weeks |
| Corrugated box | 2 months |
| Apple | 1-2 months |
| Cotton Cloth | 5 months |
| Cigarette butt | 1-5 years |
| Plywood (e.g. for building) | 1-3 years |
| Waxed carton (e.g. milk cartons) | 5 years |
| Plastic bags | 10-20 years |
| Nylon fabric (e.g. clothing) | 30-40 years |
| Leather | 50 years |
| Rubber | 50-80 years |
| Tin cans (e.g. tinned food) | 50-100 years |
| Aluminium cans (e.g. drink cans) | 150 -200 years |
| Soft plastic (e.g. drink bottles) | 100 years |
| Hard plastic (e.g. bottle caps / lids) | 400 years |
| Disposable nappy | 450 years |
| Monofilament Fishing Line | 600 years |
| Glass | Thousands of years |
| Styrofoam | While many things eventually break down after a number of years, Styrofoam is one of the few things that do not degrade. |